

ABSTRACT OF THE DISCLOSURE

5 A non-invasive, *in vivo* method for measuring sub-clinical or clinical inflammation or
irritation of mammalian skin from exposure of the skin to a topical skin care product, exposure
to an external aggression or combinations thereof is disclosed. In one embodiment, the method
includes the steps of collecting eicosanoid from the skin using a non-invasive collection
device and analyzing levels of eicosanoid collected from the skin. A kit for measuring a
marker of skin irritation or inflammation is also disclosed. The kit includes a non-invasive
collection device for collecting secretions from the skin surface, and an immunoassay for
10 measuring level of eicosanoid in the secretions.